RIGHT TIME, RIGHT EFFECT

AF sets sights on getting better information capabilities to warfighters

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From the Top

PENTAGON — During the Gulf War, information transfer rates were approximately 192,000 words per minute. By 2010 we project that data-transfer rates will exceed 1.5 trillion words per minute. Unless we improve our processes, this could result in information paralysis of sensors, deciders and shooters.

Turning this information explosion into increased combat capability is a central goal of the Air Force and the Department of Defense.

We are committed to providing a comprehensive global, robust, survivable, interoperable, secure, and reliable information capability that allows warfighters to create the right effect, at the right time, at the right point in the battlespace. The medium for this is the ConstellationNet—an integration of Air Force command and control, intelligence, surveillance and reconnaissance capabilities into the command and control network. It's a new, network-centric approach to warfare and achieving battle space effects for the Joint Forces Commander.

ConstellationNet is the Information Technology infrastructure for the entire Air Force enterprise and provides all elements of the warfighting enterprise with access to high-quality information services, enabling the concept of "centralized control, decentralized execution."

The ConstellationNet is a knowledge network characterized by highly distributed information sharing and collaboration that is enabled by a seamless and robust computing and communications infrastructure. The ConstellationNet is part of the Air Force's contribution to the Global Information Grid.

It consists of the communications infrastructure, systems, people and processes necessary for establishing a networked environment that redefines the way the warfighter conducts operations. Today's disjointed data-link networks treat each user differently and frequently require a different data format, network type and computer hardware, even for two similar platforms operating in the same area. This situation results in combat inefficiencies that limit our ability to conduct effective operations. The long-term solution to this problem leverages evolving technologies and integrates the network-centric operations capabilities of Internet Protocol based networks.

The ConstellationNet Architecture will guide the development of a network-centric, common communications network to connect all centers, platforms and users, regardless of whether fixed, deployed, or mobile, everywhere on the globe.

Battlespace knowledge is the basis for precision engagements on the battlefield. Information from diverse, unconnected sources is correlated, fused, turned into a target folder and forwarded to shooters. Often, fleeting targets are already gone before the kill chain (find, fix, target, track, engage and assess) process can be completed.

The Air Force goal is to accelerate this process through both vertical and horizontal information sharing: vertically between command centers, and horizontally among the sensors and platforms, which both collect and use the information for targeting.

The network of the future will provide communities of interest consisting of Air Force, joint, and coalition partners with a common vocabulary, a shared information space, and a collaborative environment in which they can rapidly task data-collection assets and post, process and use shared information to shorten the kill chain.

DEVELOP & GUIDE

Desired effects for the ConstellationNet

- Improved strategic analysis
- Shared awareness and understanding for collaborative decision-making
- Increased speed of command
- Higher tempo of operations
- Greater lethality and precision
- Increased survivability
- A degree of self-synchronization

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